

## CLIMATOLOGICAL DATA FOR JUNE, 1913.

## DISTRICT NO. 3, OHIO VALLEY.

PROF. FERDINAND J. WALZ, District Editor.

## GENERAL SUMMARY.

The principal features of weather conditions obtaining during the month of June, 1913, in the Ohio Valley were the remarkable extremes in temperature, the extensive deficiency in rainfall, and the unusually large percentage of sunshine.

From the 8th to the 11th inclusive there occurred some of the coldest weather ever experienced in this district in June. Freezing temperatures were registered over large areas, frost occurred in many localities, and temperatures of between  $32^{\circ}$  and  $45^{\circ}$  were reported from nearly all sections as far south as western North Carolina, and Tennessee. June low temperature records were broken or equaled at many stations throughout the district.

This cool wave was immediately followed by an intense heat wave which continued through practically the entire last half of the month, causing probably greater suffering, more prostrations and deaths than any previous heat wave of record in this district occurring so early as June. At many stations in various parts of the district maximum temperatures registered  $100^{\circ}$  or more on as many as 10 of the 15 days of the last half of the month. Thirty-six prostrations and 12 deaths were reported from Columbus, Ohio, alone and conditions were almost as severe in other cities in the central and western portions of the district.

There were only two periods in which precipitation was fairly general. Clear weather, bright sunshine, and blighting winds largely obtained. Serious droughty conditions prevailed over much of the western and northern portions of the district.

The fields of standing grain became so dry in parts of Indiana that they were set on fire by sparks from the locomotives and some fields completely destroyed. Fire patrols had to be established near Columbus, Ind., to guard against this danger. There were numerous local thunderstorms, some of which caused considerable damage from accompanying wind squalls, lightning, and hail.

Shallow troughs of low pressure overspread the Ohio Valley about the 1st, 3d, 6th-7th, and the 21st-23d, attended by showers and local thunderstorms. The prominent pressure feature, however, was the high pressure area of remarkable strength for this season of the year, which appeared over the northwestern sections about the 7th. Drifting slowly eastward with main crest about the Great Lakes, it overspread the central States from the 8th to the 11th, causing remarkably cool weather. During the 11th and the several succeeding days this "high" slowly settled down over the southern and southeastern States, and, sending northward southerly winds, finally became the cause of the intense heat wave. The pressure continued relatively high over the southeastern States during practically all the last half of the month.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

Portions of States included in the Ohio River Basin.	Temperature.				Precipitation.				Average number of days.	Average snowfall.
	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest monthly.	Least monthly.		
New York.....	63.0	+0.4	93	27	2.51	-1.46	2.81	2.16	0.70	8 0
Pennsylvania.....	67.5	+0.2	97	20	2.79	-1.50	7.61	0.83	2.25	7 0
Maryland.....	64.6	+0.8	90	27	3.96	-0.83	4.21	3.58	1.00	10 0
West Virginia.....	69.7	+0.5	99	30	3.48	-1.34	6.55	0.86	2.38	9 0
Ohio.....	70.3	+0.7	105	29	1.98	-2.01	4.94	0.55	2.00	6 0
Indiana.....	73.8	+2.3	105	34	2.30	-1.87	7.17	0.58	2.35	7 0
Illinois.....	76.2	+3.3	106	38	1.88	-1.78	3.28	0.62	1.80	5 0
Kentucky.....	75.0	+1.9	107	38	2.87	-1.44	5.78	0.40	2.40	7 0
Tennessee.....	75.3	+1.4	104	36	2.72	-1.92	5.99	0.36	2.92	6 0
Alabama.....	76.2	-0.2	101	44	3.85	-0.70	6.82	1.98	3.53	8 0
Georgia.....	71.6	-0.1	95	40	5.08	-0.80	5.37	4.80	1.49	9 0
North Carolina.....	68.0	+0.1	96	34	4.59	-0.24	10.43	1.26	3.20	10 0
Virginia.....	67.2	-0.8	92	28	3.57	-1.32	6.23	2.22	1.25	9 0

## TEMPERATURE.

Unseasonably high temperature obtained during the first two or three days and again on the 6th, but a remarkably cool wave for June set in on the 7th and continued through the 12th. During this period, especially on the 9th and 10th, freezing temperatures were registered at many places in western Pennsylvania, western Maryland, southwestern Virginia, and Ohio, while minimum temperatures between  $34^{\circ}$  and  $45^{\circ}$  were registered in Indiana and western North Carolina, and  $36^{\circ}$  to  $45^{\circ}$  in Tennessee, Kentucky, and Illinois. This was one of the longest periods of damaging cool weather ever experienced in the Ohio Valley as late as June. Much damage to garden truck and fruit was reported from most of the district north of Tennessee. In West Virginia the minimum of  $29^{\circ}$  was the lowest on record for that State in June. Freezing temperatures were reported from all counties of western Pennsylvania. In western Virginia and Ohio minimum temperatures were below freezing at some stations and the coldest weather for June ever experienced in those States occurred. In Indiana a minimum of  $34^{\circ}$  was registered at Paoli on the 11th, which is as low a temperature as has ever been recorded in southern Indiana in June, and frost occurred quite generally over the State, damaging vegetation to a considerable extent in many localities. In Illinois and Kentucky the minimum temperatures approached the lowest record for any past June. In Alabama, where minimum temperatures were from  $44^{\circ}$  to  $50^{\circ}$ , lower temperatures have occurred previously in June, but much earlier in the month. In North Carolina minimum temperatures of

near freezing were registered at stations of high elevation, and while light frost occurred it was not damaging, as it was cloudy during nearly the whole period of cold weather. From all counties in southwestern Virginia minimum temperatures below 40° were reported. At Mountain Lake, Va., the temperature reached 28° on the morning of the 10th, and outside water pipes froze. This is the lowest temperature known to have occurred in Virginia in June. At Wytheville, Va., a minimum of 36° was reached on the morning of the 11th, the coldest ever experienced at that station in June. Light frost occurred there on mornings of the 10th and 11th, which nipped tender vegetables and caused thin ice to form in exposed places. It is not determinable to what extent fruit was damaged in this locality by these frosts and freezes, as the fruit crop had already been damaged by previous freezes; but the dropping of young fruit then on the trees was certainly increased, and practically no apples, pears, peaches, plums, or cherries remained on the trees in the orchards.

There was a rapid warming up about the 15th, and during practically the entire last half of the month there was experienced some of the hottest weather on record for June and close to the record of any month during the past 25 years. The heat came in two distinct waves, the first extending from the 14th to the 20th and the second from the 24th to the 30th, the latter being severe on the 28th and 29th. Temperatures of 100° or over were registered almost daily in each of the periods in Illinois, Indiana, Kentucky, and Tennessee, and between 90° and 100° over the rest of the district. The change to cooler which broke the hot wave over the northern and central sections on the 22d and 23d, and which attended a general rainstorm, did not extend farther south than Kentucky, and over the more southerly sections the heat was continuous, but relatively not so severe as in the more northerly sections. There was much suffering, and many prostrations and deaths from the heat. The suffering was intensified on account of the stillness of the air during these periods, there being very little wind movement, and the nights were especially trying on that account. Maximum temperatures registered 100° or more on 10 out of the last 15 days of the month at many stations in Indiana, Illinois, Kentucky, and Tennessee. A maximum temperature of 107° was reached at Earlington, Ky., on the 30th, which is the highest recorded in the district, and is also the record high temperature for the State of Kentucky for June.

#### PRECIPITATION.

Rainfall was decidedly deficient in nearly all parts of the district. In only a few limited areas was the total amount for the month as much as 4 inches. In most sections it was less than 3 inches, while over large areas it was less than 2 inches, and in many localities less than 1 inch. Much of Ohio, Indiana, Illinois, and the western portions of Kentucky and Tennessee suffered severely from droughty conditions. The drought situation over the southern portions of Illinois and Indiana and the western portions of Kentucky and Tennessee was augmented by reason of the shortage of precipitation during the entire month of May.

Moderate rains occurred in portions of Kentucky and Tennessee and in southern Indiana on the 1st and 2d, and there were fairly good and general rains in West Virginia, southern Indiana, and over Kentucky, Tennessee, and sections to the southward in the period 7th-8th. But over the rest of the district there was no rain of

consequence until the 20th or 21st. This long period without appreciable rain was particularly marked in Illinois, Ohio, and the western portions of New York, Pennsylvania, Maryland, and West Virginia. Rains occurred quite generally and in generous amounts in the period 20th-25th over sections from Kentucky northward and over northeastern sections, temporarily breaking the drought, but there was little rain of consequence over Tennessee and the southern portions of the district after the 8th. The showers of the latter part of the month revived vegetation and put the soil in fair condition in regions visited by them, but they affected the general water supply but little, and at the end of the month rain was greatly needed in all parts of the district, while in many sections drought conditions had become extremely critical. The total precipitation for the portion of Ohio in this district was the least for the last 50 years for June. In Indiana it was the driest June of record with the exception of 1908 and 1910. In the State of Kentucky there was suffering from lack of moisture over practically the whole State, although in some sections the total amount was near the normal. This total resulted from heavy local showers at wide intervals while between the rains there was excessive sunshine with drying winds. The average rainfall for the State, 2.87 inches, is the smallest for June in the past 25 years except in 1894 and 1899. Conditions similar to those in Kentucky also obtained largely in Tennessee.

The rainfall was generally local in character and accompanied thunderstorms. It was therefore unequally distributed both as to time and place, the larger amounts occurring in widely separated localities, or at most in limited areas.

#### MISCELLANEOUS.

June 1.—Thundersqualls did some damage in Franklin, Marion, Hamilton, and Warren Counties, Ohio. At Columbus, Ohio, the wind reached a velocity of 60 miles per hour. Also there was considerable damage done at Maysville, Lexington, Louisville, and Shelbyville, Ky., by wind, lightning, or hail which attended thunderstorms in those localities. The country home of Lawrence Jones, near Louisville, Ky., was struck by lightning, set on fire, and completely consumed. The house was valued at \$30,000 and the furniture, which included many curios and valuable works of art, at \$50,000. Two valuable cows were killed by lightning in Scott County, Ky.

June 2.—A barn near Fayetteville, Tenn., was struck by lightning, a mare and colt killed, and the barn partly destroyed.

June 3.—A man was killed by lightning near Newcastle, Ind., and considerable damage was done in Henry and adjoining counties by lightning.

June 6.—A school-teacher was killed by lightning near Barboursville, Ky. He had taken refuge under a tree. A stock barn was partly destroyed by lightning and some damage done to crops by hail in Todd County, Ky.

June 15.—Hail fell to a depth of an inch or more at Hoopeston, Ill.

June 16.—A young man was killed and 3 people badly injured by lightning in Marion County, Ohio; also considerable damage was done locally by winds and lightning in Guernsey, Muskingum, and Tuscarawas Counties, Ohio.

June 25.—At Bellefonte, Pa., lightning struck a steel rail, followed a track into a coal mine and killed 1 man and severely injured 3 others. A young man was killed near Warren, Pa., while working in the field. Hail did considerable damage in some of the southwestern counties of Pennsylvania.

June 27.—Lightning struck a team of mules near Metropolis, Ill., killing both animals. A barn near by was also struck by lightning and burned.

June 28.—A negro boy was killed by lightning at Joppa, Ill. Mrs. Howard, near Sparta, Tenn., was struck by lightning and instantly killed.

Mr. L. W. Gordon, cooperative observer at Equality, Ill., gives the following description of peculiar phenomena in sky coloring observed by him and others at Equality on the evening of June 17, 1913.

About 7 p. m. my attention was attracted by the rich and profuse coloring in the western sky. The color phenomenon stretching from the horizon on the left through the zenith above the sun to the horizon

on the right, was composed of five separate and distinct groups of colors, each group being made up of divergent bands of the prismatic colors, the whole forming a great fan-shaped blaze of prismatic coloring diverging from the sun then near the horizon. The blue, yellow, and red were clearly marked, but the violet and other intervening colors were not so well defined. The segment of the sky near the horizon was very black and there were two clearly defined, but narrow, black stripes above the darker sky; also a marked development of cirro-cumulus clouds occurred toward the zenith of the phenomenon and over the rest of the sky. The phenomenon lasted with varying intensity for about 30 minutes.

At 9 p. m. I noticed two beams of silvery light crossing the moon, one parallel and one perpendicular to the horizon, the effect being that of a distinct silvery cross with the moon at the center, the moon being about  $10^{\circ}$  above the horizon. Both phenomena were of singular beauty.

TABLE 1.—Climatological data for June, 1913. District No. 3, Ohio Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<b>New York.</b>																					
Allegany.....	Cattaraugus.....	1,441	7	63.0		91	30	28	10	44	2.16	-	0.57	0	8	14	9	7	nw.	Charles E. Whitney.	
Bolivar.....	Allegany.....	1,800	19	62.9	+ 0.4	93	30	27	9†	49	2.81	- 1.46	0.60	0	8	18	7	5	nw.	Charles F. Hoffman.	
Olean.....	Cattaraugus.....	1,402	5								2.57		0.70	0	8					John W. Alles.	
<b>Pennsylvania.</b>																					
Aleppo.....	Green.....	1,135	12	67.8	+ 0.6	94	30	23	10	40	2.02	- 0.97	1.51	0	6	23	4	3	sw.	J. S. Hinerman.	
Baldwin.....	Butler.....	1,404	7	66.8		90	16†	34	10	44	2.21		1.25	0	4	23	3	4	w.	S. H. Templeton.	
Beaver Dam.....	Beaver.....	674	19									0.83	- 4.01	0.49	0	3	16	4	10	ne.	U. S. Engineer.
Brookville.....	Jefferson.....	1,173	22	66.0		95	16	28	9†	53	3.62	- 0.56	1.03	0	8				w.	H. C. Bartholomew.	
California.....	Washington.....	770	9	69.8		95	30	35	10	49	1.80		1.26	0	5	8	15	7	w.	Prof. B. U. P. Cobough.	
Clarion.....	Clarion.....	1,078	28											0	7	23	1	6	w.	P. O. Miller.	
Claysville.....	Washington.....	1,127	9	69.3		96	30	31	10	46	1.10		0.48	0	5	21	6	3	w.	E. T. Buchanan.	
Confluence.....	Somerset.....	1,352	24											0	8	13	8	9	sw.	Grant Pyle.	
Franklin.....	Venango.....	955	38	66.9	+ 0.8	95	16	34	9	42	4.33	- 0.43	1.53	0	10	24	1	5	w.	F. E. Dixon.	
Freeport.....	Armstrong.....	772	40											0	7	16	4	10	sw.	Mrs. Anna R. Burtner.	
Greensboro.....	Green.....	768	24											0	9	18	6	6	sw.	James G. Cramer.	
Greensburg.....	Westmoreland.....	1,100	6	68.0		92	16†	35	10	45	3.11		1.35	0	8	20	9	1	sw.	Westmoreland Water Co.	
Greenville.....	Elk.....	950	17	65.6	- 1.1	95	16	29	10	46	2.80	- 1.47	1.19	0	7	25	5	0	w.	A. M. Orr.	
Indiana.....	Mercer.....	1,350	16	69.0	+ 1.9	97	30	32	10	45	2.22	- 2.54	0.84	0	8	22	3	5	n.	R. W. Wehrle.	
Johnstown.....	Cambria.....	1,184	25	70.0	+ 0.5	96	30	34	10	42	2.66	- 2.46	0.81	0	11	19	8	3	s.	E. C. Lorentz.	
Lock No. 4.....	Washington.....	718	27											0	6	18	4	8	s.	R. T. McGowan.	
Lycippus.....	Westmoreland.....	1,420	21	68.1	- 0.1	90	19	36	10	45	1.52	- 2.91	0.37	0	5				sw.	Murray Forbes.	
Mosgrove.....	Armstrong.....	775	2											0	7	24	0	6	sw.	C. J. Moore.	
Pittsburgh.....	Allegheny.....	842	43	70.5	- 0.6	93	30	43	10	32	1.04	- 2.85	0.59	0	5	17	9	4	nw.	U. S. Weather Bureau.	
Ridgway.....	Elk.....	0	65.2											0	7				sw.	F. J. Eagen.	
Saegeertown.....	Crawford.....	1,116	22	63.3	- 2.0	90	30	30	9†	43	3.57	- 0.36	0.74	0	10	11	14	5	nw.	J. G. Apple.	
Sharon.....	Mercer.....	940	2	67.2		94	16†	32	9†	43	2.46		1.40	0	6	24	1	5	sw.	Norman S. Powell.	
Somerset.....	Somerset.....	2,250	57	66.4	+ 0.8	91	16	20	10	49	2.86	- 2.09	0.68	0	9	16	7	7	sw.	W. M. Schrock.	
Uniontown.....	Fayette.....	999	25	69.6	- 0.7	92	16†	40	10	42	4.14	- 0.61	1.37	0	7	24	1	5	sw.	Wm. Hunt.	
Warren.....	Warren.....	1,137	24	66.4	+ 1.6	96	30	31	52	3.07	- 1.16	1.00	0	0	7	20	0	10	sw.	Anna Simpson.	
<b>Maryland.</b>																					
Deer Park.....	Garrett.....	2,457	20	64.0	+ 0.8	88	18†	27	10	46	4.21	- 0.91	0.89	0	10	8	16	9	5	sw.	S. P. Specht.
Grantsville.....	do.....	2,351	20	65.8	+ 1.7	90	30	29	10	42	3.58	- 0.49	0.72	0	0	11	17	11	2	w.	J. S. Miller.
Oakland.....	do.....	2,461	14	63.9	- 0.2	88	30	28	10	42	4.10	- 0.49	1.00	0	0					w.	R. E. Weber.
<b>West Virginia.</b>																					
Bancroft.....	Putnam.....	574	10											0	8	19	3	8	ne.	R. E. Dent.	
Beckley.....	Raleigh.....	2,440	14	64.3	- 3.1	91	27	34	10†	41	6.03	+ 2.01	2.38	0	6	17	3	10	w.	John A. Ewart.	
Bens Run.....	Pleasants.....	622	12	71.0	+ 0.7	94	28†	42	10	43	2.49	- 2.20	0.93	0	7	22	7	1	sw.	J. D. Riggs.	
Bluefield.....	Mercer.....	2,563	19	68.4	- 0.3	88	20†	37	10†	44	5.71	+ 0.35	0	0	13 <sup>b</sup>	2 <sup>b</sup>	2 <sup>b</sup>	sw.	Norfolk & Western Ry.		
Buckhannon.....	Upshur.....	1,472	23	68.4	- 0.5	92	28	34	11	44	2.60	- 2.47	0.90	0	6	24	3	3	sw.	H. A. Darnall.	
Cairo.....	Ritchie.....	667	11	70.9	+ 0.6	95	26†	38	11	41	4.03	- 0.69	0.81	0	11	6	22	2	s.	Van A. Zevely.	
Central Station.....	Doddridge.....	900	11	69.4	- 0.3	95	30	36	10	42	2.23	- 2.05	0.68	0	10	15	11	2	sw.	G. W. Sherwood.	
Charleston.....	Kanawha.....	598	28	73.4	+ 1.1	94	20†	43	10†	33	2.86	- 1.83	1.32	0	8	8	10	2	w.	R. C. Hewes.	
Creston.....	Wirt.....	612	12	70.4	- 0.1	94	20	39	11	39	4.10	- 0.31	2.06	0	9	19	5	6	sw.	J. M. Reed.	
Cuba.....	Jackson.....	544	13	70.5	+ 1.8	96	30	38	11	41	2.09	- 2.05	0.58	0	9	14	15	1	w.	C. T. Perry.	
Doane.....	Wayne.....	6												0	9				w.	L. A. Smith.	
Elkhorn.....	McDowell.....	1,933	21	68.0	- 0.5	90	30	38	11	35	6.20	+ 0.87	2.05	0	12	24	3	3	sw.	J. J. Lincoln.	
Elkins.....	Randolph.....	1,940	14	67.4	+ 0.8	92	30	34	10	40	2.83	- 2.21	1.22	0	9	10	17	3	nw.	U. S. Weather Bureau.	
Fairmont.....	Marion.....	879	21	71.6		96	27†	39	10	45	4.25	- 0.45	1.35	0	10	26	1	3	w.	F. P. Hall.	
Glenville.....	Gilmer.....	738	24	72.7	+ 2.2	97	28	38	10	46	4.28	- 0.26	1.80	0	6	19	10	1	w.	Joe N. Craddock.	
Grafton.....	Taylor.....	985	21	71.2	+ 2.1	97	21	36	10	42	3.37	- 1.30	1.18	0	9	22	3	5	w.	Joseph Gerken.	
Green Sulphur Springs.....	Summers.....	1,600	18	68.8	+ 0.3	92	29	35	11	41	2.52	- 1.81	0.90	0	11	9	20	1	w.	Arthur George.	
Hinton.....	do.....	1,400	24	72.4	+ 1.8	98	30	43	10†	42	3.74	- 1.74	0.82	0	8	14	2	14	sw.	J. B. Lavender, C. E.	
Holcomb.....	Nicholas.....	1	66.4 <sup>a</sup>											0	9	19	3	8	sw.	R. E. Ferguson.	
Huntington.....	Cabell.....	510	18	73.7	+ 1.2	96	28	45	11	38	2.90	- 1.48	1.18	0	7	21	4	5	w.	L. H. Hutchinson.	
Lewisburg.....	Greenbrier.....	2,200	13	68.2	+ 0.8	98	20†	36	11	39	3.77	- 0.44	1.06	0	11	27	1	2	nw.	Geo. G. Argabrite.	
Logan.....	Logan.....	665	11	74.9	+ 2.9	97	29	45	10	37	2.47	- 3.04	0.62	0	8	19	7	4	e.	Dr. J. E. McDonald.	
Lost Creek.....	Harrison.....	1,033	17	67.3	- 0.6	92	30	33	10†	46	1.13	- 3.15	0.31	0	6	23	5	5	w.	Allen Smith.	
Madison.....	Boone.....	704	8	72.8 <sup>a</sup>										0	6	13	10	1	sw.	S. E. Bradley.	
Mannington.....	Marion.....	967	11	68.5	+ 0.1	92	27†	35	10	44	2.78	- 2.12	1.14	0	8	24	3	3	w.	Jas. A. Morgan.	
Mariinton.....	Pocahontas.....	2,169	17	64.6 <sup>a</sup>	- 1.4	86	28	30	10	45	2.85	- 2.09	1.10	0	7	16 <sup>a</sup>	10 <sup>a</sup>	3 <sup>a</sup>	sw.	C. J. McCarty.	
Morgantown.....	Monongalia.....	1,250	39	70.4 <sup>a</sup>	+ 1.5	94	30	40	10†	42	2.04	- 2.66	0.49	0	6	21 <sup>a</sup>	5 <sup>a</sup>	1 <sup>a</sup>	sw.	Horace Atwood.	
Moundsville.....	Marshall.....	640	11	71.0	+ 1.4	98	30	36	10	43	2.82	- 0.73	0.93	0	9	24	3	3	sw.	M. L. Brown.	
New Cumberland.....	Hancock.....	987	14	68.9	+ 0.7	98	30	33	10	43	3.30	- 1.42	1.70	0	4	20	6	4	s.	Frank S. Evans.	
New Martinsville.....	Wetzel.....	634	20	72.3	+ 0.8	95	16†	41	10	42	2.72	- 2.94	0.58	0	10	16	6	8	s.	Wm. Ankrom.	
Point Pleasant.....	Mason.....	553	23	73.4	+ 0.5	99	28†	40	10	41	1.72	- 2.94	0.58	0	10	12	7	2	sw.	Miss Donna Tully.	
Powellton.....	Fayette.....	904	20	70.6 <sup>a</sup>	+ 0.1	91	21†	41	10†	42	6.43	+ 1.66	1.91	0	12 <sup>a</sup>	14 <sup>a</sup>	1 <sup>a</sup>	1 <sup>a</sup>	sw.	U. S. Weather Bureau.	
Princeton.....	Mercer.....	2,469	16	64.2	- 0.7	82	20	34	11	36	6.55	- 0.88	2.25	0	10	15	13	2	w		

TABLE 1.—Climatological data for June, 1913. District No. 8—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unadjusted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.
<i>Ohio.</i>																		
Amesville.....	Athens.....	630	9	70.8	-0.9	99	28†	36	11	46	1.72	-0.95	0	6	22	5	3	F. W. Gibson.
Ashland.....	Ashland.....	1,079	13	69.3	+0.9	100	30	34	10	41	1.67	-2.03	0.80	0	5	16	6	w.
Bangorville.....	Richland.....	1,380	26	69.8	+1.3	98	30	38	9†	36	2.25	-2.00	1.03	0	8	18	11	sw.
Bellefontaine.....	Logan.....	1,276	34	69.2	+0.5	98	30	39	9†	40	1.56	-2.57	0.68	0	7	21	6	Cory L. Lane.
Bladensburg.....	Knox.....	1,100	20	68.4	+0.7	94	30	34	10	43	1.48	-1.38	0.63	0	5	2	Miss Mary Elliot.	
Brilliant.....	Jefferson.....	700	70.6	99	30	37	10	40	12	20	1.20	-0.65	0	3	23	3	s.	
Cadiz.....	Harrison.....	1,245	9	71.4	-0.9	97	30	39	9†	38	1.92	-0.85	0	7	21	3	Harry B. McConnel.	
Cambridge.....	Guernsey.....	803	21	68.6	+0.5	94	30	36	10	42	3.28	-0.49	0.90	0	8	16	13	Samuel Meaffey.
Camp Dennison.....	Hamilton.....	570	20	72.6	+0.6	100	30	41	9†	44	1.50	-1.84	1.07	0	7	23	5	Henry F. Pinkvoss.
Canal Dover.....	Tuscarawas.....	884	20	70.8	-0.2	98	30	35	10	42	0.55	-3.60	0.20	0	5	25	2	Ed. S. Slingluff.
Canton.....	Stark.....	1,089	30	68.3	-0.2	98	30	35	10	42	0.55	-3.60	0.20	0	5	25	2	Carl H. Meyer.
Cardington.....	Morrow.....	1,010	18	69.6	+2.5	98	30	36	9	42	3.52	-0.33	1.85	0	5	21	0	J. W. Shaw.
Chillicothe.....	Ross.....	630	10	71.0	-0.8	98	30	39	9	32	1.54	-0.64	0	3	23	3	Marion Mackay.	
Cincinnati.....	Hamilton.....	628	42	74.8	+1.1	98	28	43	9	33	2.29	-1.69	0.93	0	8	15	12	U. S. Weather Bureau.
Circleville.....	Pickaway.....	694	25	71.8	-1.1	100	30	36	9	48	4.15	+0.10	1.45	0	11	20	4	Dr. H. R. Clarke.
Clarington.....	Monroe.....	600	10	69.0	+0.1	95	27†	36	10	43	2.15	-2.13	1.10	0	6	20	4	Col. S. Tschappat.
Columbus.....	Franklin.....	918	35	71.8	+0.8	98	30	39	9	32	1.56	-1.93	0.56	0	8	22	6	U. S. Weather Bureau.
Coshocton.....	Coshocton.....	770	4	70.0	-0.4	98	30	40	9	32	1.99	-0.45	0	8	23	3	Mrs. Ada Jeffries.	
Dayton (1).....	Montgomery.....	899	2	72.5	+0.4	98	30	40	9	32	2.67	-1.29	0.55	0	10	19	6	U. S. Weather Bureau.
Dayton (2).....	do.....	790	32	72.2	+0.2	99	30	37	10	42	2.75	-1.15	0.55	0	8	23	3	Mrs. Edith E. L. Boyer.
Delaware.....	DeWitt.....	896	16	70.0	+1.1	101	30	36	10	44	1.70	-2.00	0.42	0	7	16	13	DeWitt H. Leas.
Demot.....	Belmont.....	1,325	25	72.4	+2.7	97	30	36	10	32	2.31	-2.01	0.90	0	8	23	5	J. T. Dysart.
Dennison.....	Tuscarawas.....	846	3	70.9	-0.1	101	30	35	10	47	1.10	-0.59	0	4	24	5	Water Supply Co.	
Frankfort.....	Ross.....	745	21	72.0	+0.2	98	16	36*	10	47*	1.77	-1.53	1.85	0	2	21	4	O. A. Cory.
Gallipolis.....	Gallia.....	580	1	70.0	-0.4	98	30	37	10	42	1.47	-0.65	0	7	23	3	Samuel F. Neal.	
Garretttsville.....	Portage.....	1,005	29	65.0	-0.4	96	30	29	10	44	1.30	-2.39	0.57	0	4	19	8	S. M. Luther.
Granville.....	Licking.....	960	31	69.8	+0.6	98	30	38	11	42	1.68	-2.29	0.50	0	6	21	2	W. B. Longstreth.
Gratiot.....	do.....	1,000	24	69.0	-0.4	93	16†	40	9†	38	3.43	-0.78	0.80	0	9	18	11	W. F. Kenyon.
Green.....	Adams.....	500	20	72.4	+0.4	98	30	30	10	43	2.53	-1.71	1.22	0	4	26	2	Jos. E. Bentley.
Green Hill.....	Columbiana.....	1,135	20	64.8	-1.1	96	30	31	10	42	0.63	-3.31	0.40	0	4	21	8	E. A. Katzenberger.
Greenville.....	Darke.....	1,060	27	72.3	+2.9	95	16†	40	9	35	2.87	-1.46	1.09	0	10	24	3	Earl W. Stout.
Hamilton.....	Butler.....	601	1	73.6*	-0.1	100	30	40*	8	41*	3.00	-0.99	0	6	23	3	H. W. Stiers.	
Haydenville.....	Hocking.....	700	1	70.0	-0.4	98	30	37	10	42	1.30	-2.39	0.57	0	4	19	8	Cary H. Roush.
Hillsboro.....	Highland.....	1,063	34	70.0	-0.4	98	30	29	10	44	1.30	-2.39	0.57	0	4	19	8	James Bull.
Ironton.....	Lawrence.....	575	30	73.4	+2.1	98	20†	40	11	42	1.50	-3.12	0.61	0	6	20	5	Frank B. Rarey.
Kenton.....	Hardin.....	1,015	21	69.2*	-0.5	100*	30	35*	10†	42*	1.01	-3.48	0.35	0	4	22	6	John A. Schonauer.
Killbuck.....	Holmes.....	1,087	20	69.3	+1.0	98	30	36	9	40	1.25	-2.37	0.60	0	7	26	4	Frank M. See.
Kings Mills.....	Warren.....	640	1	70.0	-0.4	98	26†	41	9†	39	1.91	-2.73	0.58	0	8	25	2	R. L. Renshaw.
Lancaster.....	Fairfield.....	898	18	70.2	+1.1	95	26†	41	9†	39	1.91	-2.73	0.58	0	8	23	1	C. H. Morris.
McConnellsville.....	Morgan.....	710	29	69.4	-0.7	95	27†	39	11	39	1.85	-2.47	0.63	0	8	18	5	Prof. T. D. Biscoe.
Marietta.....	Washington.....	627	93	72.0	+1.8	98	27†	42	9†	43	4.94	+0.71	2.00	0	10	17	10	Dr. E. H. Rattnerperger.
Marion.....	Marion.....	950	35	70.4	+0.7	103	30	37	10†	43	3.52	-0.56	1.40	0	7	10	17	L. H. Burgess.
Mifflordton.....	Knox.....	1,200	21	68.6	+0.9	99	30	38	9†	47	4.10	-0.51	2.29	0	5	21	9	V. C. Eveland.
Milligan.....	Perry.....	875	20	69.5	0	99	26†	32	12	55	1.51	-2.75	0.81	0	6	19	10	G. F. Copeland.
Millport.....	Columbiana.....	1,145	20	66.0	-0.7	96	30	32	10	43	0.72	-3.03	0.54	0	4	17	12	Ethel L. Gammertsfelder.
Nellie.....	Coshocton.....	850	13	68.5	-0.4	97	30	33	10	45	1.75	-2.05	0.92	0	5	20	9	Clayton Holl.
New Berlin.....	Stark.....	1,100	20	67.2	-0.4	97	30	35	9	39	0.80	-2.83	0.45	0	3	24	5	Sam. C. Scott.
New Waterford.....	Columbiana.....	1,053	18	70.5*	+3.2	105	30	36*	11	58*	1.29	-3.38	1.11	0	2	24	5	Prof. H. C. Lord.
O. S. University.....	Franklin.....	757	30	70.8	+1.2	97	27†	38	9	40	1.10	-2.36	0.45	0	7	17	7	Prof. H. E. Schirrmann.
Oregonia.....	Warren.....	30	70.0	70.0	-0.4	98	28	35	10	42*	1.41	-0.52	0	4	14	10	Neil J. Gast.	
Pataskala.....	Licking.....	1,015	21	69.6	+0.4	99	28	39	9†	40	1.57	-2.40	0.50	0	7	17	12	J. N. Ridénour.
Peebles.....	Adams.....	645	2	70.6	-0.3	98	30	34	11	47	2.01	-1.11	0.37	0	3	24	3	Ora C. Smalley.
Philo.....	Muskingum.....	1,018	18	70.8	+0.3	95	30	40	9†	34	1.64	-2.12	0.52	0	5	17	10	L. C. Burekholter.
Piqua.....	Miami.....	847	3	70.0	-0.3	97	30	33	10	45	1.59	-0.87	0.37	0	6	18	5	Harry L. Roberts.
Plattsburg.....	Clark.....	1,130	20	70.6	+1.3	97	30	40	9	41	2.37	-1.54	0.74	0	7	21	6	F. E. Stewart.
Portsmouth.....	Scioto.....	527	82	74.2	+1.6	99	26†	41	10	39	1.55	-2.55	0.70	0	6	15	4	Dr. H. A. Schirrmann.
Prospect.....	Marion.....	909	3	70.0	-0.4	98	28	35	10	42*	1.41	-0.52	0	4	22	7	1	Hamline B. Blake.
Sidney.....	Shelby.....	985	30	71.4	+1.0	101	30	40	10	40	2.18	-1.62	0.96	0	7	23	1	Miss M. W. C. Sheridan.
Somerset.....	Perry.....	1,080	14	72.4	+1.9	100	27	40	9†	35	1.03	-4.18	0.22	0	10	21	8	W. A. Webster.
Springfield.....	Clark.....	980	19	70.0	-0.7	98	30	32	10	41	1.85	-2.73	0.47	0	9	17	11	H. R. McClintock.
Summerfield.....	Noble.....	1,187	7	68.4	-4.4	97	27	35	10	45	2.57	-0.90	0.90	0	8	13	16	Irving R. Karr.
Syracuse.....	Mels.....	583	2	72.2	-0.1	100	30	40	11	42	3.52	-1.47	0.87	0	8	22	3	D. D. Thomas.
Thurman.....	Galla.....	696	20	71.9	+0.4	94	30	42	9	35	1.95	-2.40	0.95	0	4	14	10	H. A. Albyn.
Toboso.....	Licking.....	704	4	70.4	-0.8	98*	28	35	10	42*	1.41	-0.52	0	4	22	7	sw.	
Urbana.....	Champaign.....	1,031	45	70.0	+1.3	100	30	39	11	44	2.19	-3.07	0.45	0	5	21	7	sw.
Warren.....	Trumbull.....	900	24	67.6	+0.2	98	30	32	10	41	1.58	-1.95	0.98	0	3	23	3	M. D. McCorkle.
Waverly.....	Pike.....	590	30	71.0	-1.0	96	30	40	9†	42	3.29	-0.95	1.56	0	7	17	0	Dr. Peru Hutt.
Waynesville.....	Warren.....	700	28	70.9	+1.1	94	28	30	9	34	3.70	-0.42	1.15	0	8	21	6	Charles Michener.
Wooster.....	Wayne.....																	

TABLE 1.—Climatological data for June, 1913. District No. 3—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<i>Indiana—Continued.</i>																					
Huntington.	Huntington.	741	20	71.0	+ 1.4	100	30	33	8†	38	1.32	- 2.67	0.40	0	8	21	6	3	sw.	Chas. McGrew.	
Indianapolis.	Marion.	822	41	74.2	+ 1.8	97	30	42	9	29	2.35	- 1.96	0.77	0	9	12	12	6	ne.	U. S. Weather Bureau.	
Jeffersonville.	Clark.	455	31	75.3	+ 0.7	99	29	45	11	37	3.95	+ 0.23	1.26	0	10	18	7	5	w.	John C. Loomis.	
Judyville.	Warren.	450	6	72.8	-	102	16	36	10	45	1.63	-	0.53	0	9	21	5	4	ne.	W. A. Hill.	
Kokomo.	Howard.	840	21	70.3	- 0.3	97	29	36	10	39	2.34	- 1.46	0.64	0	8	18	8	4	sw.	P. H. Robertson.	
La Fayette.	Tippecanoe.	617	34	73.2	+ 2.5	101	29	41	9	37	2.26	- 2.21	0.88	0	8	23	2	5	sw.	Wm. J. Jones, jr.	
Logansport.	Cass.	620	23	73.6	+ 2.1	103	30	38	10	42	1.19	- 2.85	0.22	0	8	23	2	5	e.	Chas. Massena.	
Madison.	Jefferson.	460	21	75.8	+ 1.8	103	29	43	11	42	2.64	- 1.35	1.31	0	8	17	12	1	sw.	Miss F. Cooperider.	
Marengo.	Crawford.	363	31	73.6	+ 0.6	101	17	37	11	48	1.42	- 3.51	0.40	0	5	15	11	4	sw.	J. M. Johnson.	
Marion.	Grant.	814	27	72.4	+ 2.2	101	28	39	9	39	3.20	- 3.20	0.26	0	7	20	4	6	s.	James F. Hood.	
Mauzy.	Rush.	980	33	71.2	+ 1.1	96	16†	39	9†	40	2.61	- 1.68	0.92	0	6	17	7	6	sw.	Elwood Kirkwood.	
Monticello.	White.	674	3																e.	J. E. Loughry.	
Moores Hill.	Dearborn.	980	12	73.1	+ 2.8	99	30	41	9†	36	1.18	- 2.09	0.56	0	7	23*	3*	3	n.	W. S. Bigney.	
Mount Vernon.	Posey.	410	27	77.2	+ 1.9	103	17	47	9†	41	1.13	- 2.60	0.69	0	4	22	4	4	sw.	Guy B. Green.	
Nashville.	Brown.	72.0		96	28†	35	11	45	1.47						0	4	20	2	8	sw.	W. C. Goble.
Paoli.	Orange.	611	16	73.8	+ 1.6	103	29	34	11	50	1.44	- 3.02	0.46	0	7	17	11	2	sw.	James A. Gillum.	
Princeton.	Gibson.	481	31	77.4	+ 3.3	104	18	44	11	52	2.72	- 1.33	1.63	0	4	20	5	5	sw.	Albert Mills.	
Richmond.	Wayne.	972	28	69.8	+ 0.4	95	16†	39	11	41	3.21	- 0.91	0.54	0	10	15	11	4	sw.	Walter Vossler.	
Rochester.	Fulton.	775	8	71.8	-	97	19	37	9	37	3.58	-	0.32	0	4	20	7	3	sw.	G. P. Keith.	
Rockville.	Parke.	722	27	75.2	+ 4.2	100	16†	41	9	46	2.21	- 1.99	0.80	0	7	16	11	3	sw.	C. A. Lee.	
Home.	Perry.	370	10	77.2	+ 2.7	105	19	41	11	48	2.95	- 0.82	1.30	0	6	23	5	2	sw.	Adam Anspach.	
Salamonie.	Jay.	950	8	69.4*	-	99*	29	35*	9	38*	2.96	-	0.78	0	8	15*	10*	4*	sw.	S. A. Armstrong.	
Salem.	Washington.	717	20	74.4	+ 2.6	101	30	39	11	47	3.08	- 0.86	1.29	0	7	14	13	3	s.	Emmet S. Allen.	
Scottsburg.	Scott.	570	19	74.8	+ 0.7	101	30	41	11	40	2.66	- 1.57	1.00	0	7	21	6	3	s.	Fran H. Park.	
Seymour.	Jackson.	610	26	75.2	+ 2.4	103	30	40	11	47	2.53	- 1.44	0.81	0	9	17	9	4	sw.	J. Thomas Hays.	
Shelbyville.	Shelby.	768	9	73.5	-	101	30	40	9†	45	2.61	-	1.06	0	8	15	13	2	sw.	Edgar G. Hodson.	
Shoals.	Martin.	523	6	74.8*	-	109*	30	39*	11	43*	0.65	-	0.34	0	5	19	5	6	e.	Rev. G. Halleck Rowe.	
Terre Haute.	Vigo.	408	23	76.0	+ 2.4	100	29	44	9	36	1.06	- 3.10	0.47	0	8	18	8	4	sw.	U. S. Weather Bureau.	
Veedersburg.	Fountain.	612	14	74.4	+ 4.1	101	16†	36	11	49	2.02	- 2.58	0.75	0	9	21	5	4	s.	L. A. Culver, Jr.	
Vevay.	Switzerland.	525	32	77.4	+ 3.8	101	27	42	9	31	3.75	- 0.91	1.25	0	7	13	12	5	sw.	Miss Frederica Boerner.	
Vincennes.	Knox.	431	21	78.0*	+ 3.7	104	19	47*	9	38*	1.50	- 3.29	0.45	0	5	25	1	4	se.	Garrett V. List.	
Washington.	Daviess.	484	17	77.4	+ 4.8	103	19	46	10	35	1.18	- 3.27	0.45	0	6	14	10	6	w.	Charles C. Feagans.	
Whitestown.	Boone.	529	5	73.2	-	98	19†	43	9†	35	3.14	-	1.14	0	9	7	2	sw.	Clyde O. Laughner.		
Winona Lake.	Kosciusko.	885	6	70.4	-	101	30	35	3	46	1.02	-	0.47	0	5	10	19	1	sw.	Rev. Albert A. Young.	
Worthington.	Greene.	526	31	75.6	+ 3.3	101	16	43	11†	43	0.84	- 3.55	0.41	0	5	11	16	3	sw.	D. W. Soliday.	
<i>Illinois.</i>																					
Albion.	Edwards.	531	22	77.0	+ 2.6	102	19	45	11	35	2.86	- 1.32	1.39	0	5	20	7	3	w.	B. F. Michels.	
Casey.	Clark.	645	10								1.66	- 1.56	0.60	0	6	20	5	6	sw.	William Chenoweth.	
Charleston.	Coles.	720	28	75.8	+ 3.1	102	19	41*	11	44*	1.42	- 2.69	0.56	0	8	9	15	6	nw.	Jacob B. Daisy.	
Danville.	Vermilion.	604	12	74.7	+ 2.2	102	30	39	11	46	2.42	- 0.40	0.80	0	6	20	4	6	sw.	J. J. Lemon.	
Equality.	Gallatin.	421	15	79.6	+ 5.2	106	28	45	11	42	0.62	- 2.68	0.45	0	3	18	12	0	s.	Dr. L. W. Gordon.	
Fairfield.	Wayne.	450	20	77.0*	+ 3.4	103*	19	44*	12	44*	1.48	- 2.41	0.75	0	4	17	8	5	s.	George A. Troutly.	
Flora.	Clay.	495	27	77.0	+ 4.3	105	19	41	11	43	2.35	- 1.22	1.47	0	5	18	8	4	sw.	W. L. Hanna.	
Golconda.	Pope.	500	35	78.4	+ 3.3	106	18	45	11†	48	3.07	- 0.96	1.80	0	5	15	9	6	sw.	Dr. D. Lawrence.	
Hooperston.	Vermilion.	715	11	73.4	+ 3.4	100	19†	38	9	44	3.28	- 0.69	1.00	0	8	19	6	5	sw.	S. F. Hoskinson.	
McLeansboro.	Hamilton.	462	30	77.1	+ 2.8	103	18	47	9†	43	1.57	- 2.34	0.56	0	5	23	3	4	sw.	Prof. W. C. Fairweather.	
Metropolis.	Massac.	346	2																s.	Henry H. Humma.	
Montrose.	Effingham.	599	3	75.6	-	104	17†	40*	12	48*	1.27	-	0.85	0	6	23	2	4	sw.	J. C. Spiller.	
Mount Carmel.	Wabash.	424	12	76.6	+ 4.1	101	19	47	9	36	2.58	- 1.47	0.80	0	7	21	5	4	sw.	Mrs. H. M. Phillips.	
New Burnside.	Johnson.	613	18	76.9	+ 2.2	104	30	38	11	41	0.66	- 2.84	0.25	0	5	23	3	4	se.	Thomas H. McCabe.	
Newton.	Jasper.	484	2																s.	J. M. Hicks.	
Olney.	Richland.	486	26	76.5	+ 1.9	103	18†	39	11	46	1.48	- 2.21	0.63	0	4	20	6	4	sw.	John T. Ratcliff.	
Palestine.	Crawford.	500	31	76.0	+ 2.9	103	17	43*	9	40	2.36	- 1.59	1.13	0	4	20	6	4	sw.	Duane Shaw.	
Paris.	Edgar.	600	20	75.7	+ 3.1	104*	30	40	9	41	0.95	- 2.59	0.48	0	4	22	5	3	sw.	H. P. Twyman.	
Philo.	Champaign.	700	29	74.2	+ 3.4	101	16	39	9	46	1.64	- 1.96	0.87	0	4	22	5	3	sw.	H. A. Burr.	
Rileyville.	Saline.	406	16																s.	W. H. Thornberry.	
Shawneetown.	Gallatin.	307	3																se.	Mrs. Mary O. Spivey.	
Tuscola.	Douglas.	644	20																sw.	Joseph O'Neal.	
Urbana.	Champaign.	751	11	73.8	+ 4.2	98	19	40	9	37	1.73	- 0.71	0.64	0	7	11	15	4	sw.	University of Illinois.	
<i>Kentucky.</i>																					
Alpha.	Clinton.	19	72.6	- 0.5	93	27†	44	11	30	4.74	- 0.30	2.40	0	5	15	11	4	s.	W. W. Hicks.		
Anchorage.	Jefferson.	700	12	74.0	+ 2.3	99	17†	42	12	41	3.29	- 0.47	1.01	0	7	24	4	2	sw.	C. E. Barrett.	
Bardstown.	Nelson.	637	16	76.5	+ 1.9	103	29	44	11	42	4.49	+ 0.14	1.92	0	8	24	4	2	s.	T. S. Talbott.	
Beattyville.	Lee.	650	9	72.4	+ 0.6	97	17	39	11	44	5.78	+ 0.90	1.68	0	8	10	9	11	w.	G. W. Cann.	
Beaver Dam.	Ohio.	441	10	76.4	+ 3.4	103	18†	40	11	46	1.58	- 1.95	0.44	0	5	16	10	4	s.	W. T. Austin.	
Berea.	Madison.	1,070	12	74.5	+ 2.5	100	30	39	11	38	3.30	- 1.96	1.03								

TABLE 1.—Climatological data for June, 1913. District No. 8—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.				
<b>Kentucky—Continued.</b>																			
Marion.	Crittenden.	18	78.0	+ 3.1	101	18†	46	11	36	0.95	- 2.70	0.31	0	4	18	8	4	sw.	
Maysville.	Mason.	524	73.8	+ 1.0	101	30	41	11	42	1.76	- 3.02	0.81	0	7	21	6	3	se.	
Middlesboro.	Bell.	1,128	72.6	+ 0.4	95	29	42	11	40	2.47	- 2.47	0.62	0	9	19	11	0	.....	
Mount Sterling.	Montgomery.	930	74.6	+ 2.2	99	30	43	11	39	3.17	- 1.81	0.90	0	8	24	1	5	s.	
Owensboro.	Davies.	479	76.4	+ 2.1	100	29†	47	12	34	1.68	- 1.84	0.77	0	5	16	8	6	se.	
Paducah.	McCracken.	341	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	3	9	.....	.....	.....	
Pikeville.	Pike.	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	9	.....	.....	.....	.....	
Richmond.	Madison.	926	75.3	+ 2.0	98	30	45	10	32	2.99	- 0.90	1.08	0	9	20	4	6	e.	
St. John.	Hardin.	777	74.6	+ 2.8	100	17	44	12	42	3.05	- 0.99	0.99	0	7	23	0	7	.....	
Scott.	Kenton.	15	73.8	+ 2.1	96	17†	42	9	38	3.61	- 0.09	1.37	0	8	22	5	3	n.	
Shelby City.	Boyle.	1,087	73.0	+ 1.4	100	17	39	11	43	2.5	- 1.57	1.05	0	6	23	5	2	sw.	
Shelbyville.	Shelby.	759	75.8	+ 1.9	102 <sup>c</sup>	19†	43	9	42 <sup>c</sup>	4.31	- 0.39	0.80	0	8	21	0	9	s.	
Taylorsville.	Spencer.	489	73.5	+ 1.1	99	20†	41	11	43	2.90	- 0.26	0.60	0	9	20	5	5	sw.	
Williamsburg.	Whitley.	939	74.1	+ 0.8	100	20†	41	11	45	4.01	- 0.66	1.05	0	10	22	1	7	e.	
Williamstown.	Grant.	943	73.6	+ 3.2	97	20†	40	9	36	1.43	- 2.83	0.95	0	4	20	3	7	.....	
<b>Tennessee.</b>																			
Ashwood.	Maury.	725	40	75.9	+ 1.0	102	27	44	12	40	0.90	- 3.28	0.35	0	3	7	16	7	s.
Benton.	Polk.	880	29	75.7	+ 1.8	101	29	45	11†	35	2.89	- 2.83	0.85	0	6	12	17	1	n.
Bird's Bridge.	Greene.	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	9	23	2	8	w.	
Bluff City.	Sullivan.	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	12	20	2	8	e.	
Byrdstown.	Pickett.	1,026	76.1	+ 3.1	99	29†	47	11	38	1.39	- 3.66	0.96	0	5	9	13	8	w.	
Carthage.	Smith.	500	75.8	+ 0.9	98	27†	46	11	38	4.78	- 0.05	2.40	0	5	24	1	0	se.	
Cedar Hill.	Robertson.	625	78.0	+ 2.1	103	30	45	9	44	2.40	- 1.93	1.20	0	3	24	6	0	s.	
Celina.	Clay.	494	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	8	24	0	6	s.	
Charleston.	Bradley.	709	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	10	21	3	6	s.	
Chattanooga.	Hamilton.	808	34	76.0	+ 0.6	98	29	50	12	33	4.13	- 0.18	1.10	0	3	21	12	2	w.
Clarksville.	Montgomery.	500	53	78.6	+ 5.0	104	29	48	11†	44	2.31	- 1.84	1.44	0	3	10	6	11	sw.
Clinton.	Anderson.	800	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6	17	2	11	sw.	
Crossville.	Cumberland.	1,895	1	72.0	.....	96	29	41	11†	38	1.33	.....	0.66	0	6	12	7	1	.....
Dandridge.	Jefferson.	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	7	21	5	4	w.	
Decatur.	Meigs.	850	18	75.3	+ 0.8	99	26†	42	12	42	2.85	- 2.33	0.93	0	8	18	8	4	sw.
Dickson.	Dickson.	800	20	75.0	+ 1.1	99	29	45	11	39	1.56	- 2.54	1.10	0	2	23	6	1	s.
Dover.	Stewart.	500	17	77.4	+ 2.4	103	29†	45	11	43	3.36	- 0.20	0	0	2	22	7	1	s.
Dunlap.	Sequatchie.	726	4	76.2	.....	101	18†	43	12	45	1.31	.....	0.87	0	9	14	15	1	.....
Elizabethton.	Carter.	1,575	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	10	18	0	12	e.	
Erasmus.	Cumberland.	1,830	16	70.6	+ 1.7	95	29	39	14	48	3.18	- 2.41	0.66	0	9	16	12	2	se.
Florence.	Rutherford.	560	31	75.4	+ 0.3	96	20	47	11†	35	2.18	- 1.76	0.74	0	8	18	9	3	s.
Franklin.	Williamson.	648	25	75.3	+ 0.8	98	29	46	12	30	1.65	- 2.69	0.92	0	3	14	10	6	.....
Hall's Hill.	Rutherford.	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6	24	0	6	s.	
Hohenwald.	Lewis.	983	30	76.6	+ 3.2	103	18	49	11†	42	2.92	- 2.13	1.30	0	8	19	11	0	s.
Iron City.	Lawrence.	600	18	74.4	- 0.1	100	28	42	12	41	2.89	- 2.19	0.96	0	6	11	19	0	nw.
Jefferson City.	Jefferson.	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6	26	3	1	w.	
Johnson City.	Washington.	1,620	20	71.6	0.0	97	26†	42	11	38	3.47	- 1.21	1.04	0	6	15	12	3	s.
Johnsonville.	Humphreys.	364	29	77.0	+ 1.9	101	18†	45	12	44	1.63	- 2.47	0.54	0	6	15	12	3	w.
Kingston.	Roane.	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	8	23	0	7	e.	
Knoxville.	Knox.	977	42	75.1	+ 1.7	95	17	48	12	35	1.56	- 2.61	0.44	0	10	13	12	5	ne.
Lebanon.	Wilson.	522	4	76.4	.....	99	20†	45	11	38	2.48	.....	0.70	0	7	14	6	10	n.
Lewisburg.	Marshall.	727	19	75.4	- 0.2	99	18	46	11†	39	4.77	+ 0.59	2.26	0	4	16	12	2	.....
Liberty.	DeKalb.	672	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6	25	0	5	s.	
Loudon.	Loudon.	816	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	4	22	2	6	s.	
Lynnmville.	Giles.	770	26	74.8	0.0	96	29	48	12	42	3.98	- 0.63	2.11	0	4	12	15	3	s.
McGhee.	Monroe.	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	5	24	0	6	s.	
McMinnville.	Warren.	1,011	32	74.4	+ 0.7	99	30	44	12	39	5.99	+ 1.15	1.55	0	7	17	11	2	sw.
Maryville.	Blount.	1,050	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	5	23	6	1	.....	
Mountain City.	Johnson.	2,486	16	67.6	+ 0.6	88	29	36	11	41	2.98	- 2.76	0.84	0	13	15	14	1	w.
Nashville.	Davidson.	654	42	77.3	+ 1.0	100	29	50	12	34	0.90	- 3.47	0.36	0	6	13	14	3	w.
Newport.	Cooke.	1,280	23	73.6	- 0.6	95	29†	45	11	33	3.56	- 0.71	1.05	0	9	22	2	6	w.
New River.	Scott.	1,215	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	5	25	1	4	sw.	
Palmetto.	Bedford.	770	23	75.7	+ 0.7	98	29	48	12†	35	4.10	- 0.26	2.00	0	5	23	6	1	s.
Perryville.	Decatur.	387	17	76.8	.....	103	28	45	11	42	1.65	- 2.72	1.09	0	4	18	8	4	sw.
Pinewood.	Hickman.	7	.....	.....	.....	103	18†	43	13	48	2.45	.....	1.50	0	3	19	8	3	s.
Rogersville.	Hawkins.	1,150	29	73.3	+ 1.5	96	29	45	13	39	2.85	- 1.10	0.98	0	10	18	10	2	e.
Ruby.	Morgan.	1,410	24	72.0	+ 0.7	98	29	38	2	47	2.63	- 1.99	1.30	0	6	15	7	8	n.
Savannah.	Hardin.	442	30	78.4	+ 2.8	99	18†	46	2	41	3.03	- 1.64	1.75	0	5	18	9	3	s.
Sevierville.	Sevier.	7	73.8	.....	95	26	42	11	39	2.56	.....	1.10	0	0	10	9	8	13	sw.
Sewanee.	Franklin.	2,000	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	7	13	7	10	.....	
Sparta.	White.	920	7	74.6	.....	99	26	45	11†	43	2.38	.....	0.98	0	7	13	7	10	w.
Springville.	Henry.	377	11	76.9	+ 3.2	103	18†	43	11†	47	4.5	- 1.20	0.53	0	6	24	4	2	s.
Tazewell.	Clayborne.	1,350	16	72.2	.....	97	30	38	11	44	2.51	- 2.00	0.70	0	7	19	3	8	ne.
Tullahoma.	Coffee.	1,075	26	73.8	+ 1.0	96	29	45	12	37	1.40	- 2.99	1.13	0	3	15	12	3	s.
Walling.	White.	909	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6	15	7	8	s.	
Waynesboro.	Wayne.	753	28	74.9	+ 1.2	99	18†	43	12	41	2.36	- 2.02	0.68	0					

TABLE 1.—Climatological data for June, 1913. District No. 8—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, terminated.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of overcast days.			
<i>North Carolina.</i>																					
Altapass.....	Mitchell.....	2,629	...	66.4	88	27†	34	11	37	4.35	1.50	0	4	20	5	sw.	Altapass Inn.				
Andrews.....	Cherokee.....	1,800	3	71.8	96	28†	38	12	44	2.96	0.71	0	11	12	17	1	sw.	J. D. Link.			
Asheville.....	Buncombe.....	2,255	34	69.4	+ 0.7	89	28	46	11	33	2.90	- 1.45	1.03	0	13	11	14	5	dw.	U. S. Weather Bureau.	
Banners Elk.....	Avery.....	3,750	5	63.0	87	26	36	10†	40	3.45	1.26	0.55	0	6	18	9	3	w.	T. L. Lowe.		
Blantyre.....	Transylvania.....	1,900	1								3.13	0.36	0	9					R. W. Collett.		
Blowing Rock.....	Watauga.....	4,090	4								1.26	1.03	0	7					E. G. Underdown.		
Bryson City.....	Swain.....	2,000	25								2.90	- 1.66	1.38	0	6				D. K. Collins.		
Cane River.....	Yancey.....	2,700									4.77		1.02	0	14				Hiram A. Proffit.		
Cullowhee.....	Jackson.....	2,100	3	69.7	92	29	37	12	48	2.93	0.71	0	13	10	12	8	s.	Frank H. Brown.			
Eagles Nest.....	Haywood.....	5,050		64.0	80	28†	35	9	33	10.22	3.20	0	11	22	5	3	ne.	S. C. Satterthwait.			
Ellijay.....	Macon.....	2,500									2.69	0.61	0	12					Chas. G. Mincy.		
Hendersonville.....	Henderson.....	2,187	16															Dr. L. B. Morse.			
Highlands.....	Macon.....	3,850	23	64.2	- 0.4	84	17	35	12	32	8.64	+ 1.91	2.45	0	11	8	21	1	nw.	T. G. Harbison.	
Hot Springs.....	Madison.....	1,326	15	72.2	+ 0.2	90	22†	44	11	35	5.95	1.37	0	11	10	15	5	w.	P. A. Garner.		
Jefferson.....	Ashe.....	2,900	6															Prof. E. J. Johnson.			
Marshall.....	Madison.....	1,646	11	72.4	+ 1.2	95	28	44	11	40	3.33	- 1.41	1.24	0	10	17	4	9	w.	M. L. Church.	
Murphy.....	Cherokee.....	1,614	37		- 1.1	85	17	41	11†	27	10.43	+ 2.38	2.57	0	9				Miss Victoria Mingus.		
Rock House.....	Macon.....	3,100	21	67.4							3.99		1.00	0	9				Barry C. Hawkins.		
Transon.....	Ashe.....	2,600	1								3.80	- 0.93	1.55	0	13	13	14	3	sw.	S. M. Transou.	
Waynesville.....	Haywood.....	2,792	19	68.0	+ 0.1	91	29	40	12	44								Mrs. Chas. E. Quinlan.			
<i>Virginia.</i>																					
Blacksburg.....	Montgomery.....	2,170	22	68.0	+ 0.2	90	20†	35	11	40	4.58	+ 0.03	1.10	0	12	14	11	5	sw.	Agricultural Exper. Station.	
Burke's Garden.....	Tazewell.....	3,250	18	64.4	+ 0.4	84	26	31	11	39	4.10	- 1.83	1.10	0	8	12	9	9	sw.	C. H. Grever.	
Elk Knob.....	Lee.....	3,243	10	72.5	+ 2.1	92	30	46	10	26	2.22	- 2.92	0.77	0	8	20	5	5	n.	Henry Nicoll.	
Emory.....	Washington.....	2,094	1	68.2		91	28†	35	11	40	2.15		0.92	0	6	21	0	9		J. E. Weaver.	
Ivanhoe**	Wythe.....	2,028	9	68.4		86	17	42	10†	30	2.56		0.60	0	13	10	17	3	w.	Miss Alice G. Jewett.	
Max Meadows.....	do.....	2,028	17	68.6	+ 0.9	90	28	35	11	35	4.92	+ 0.24	1.25	0	11	14	11	4	sw.	James M. Graham.	
Mendota.....	Washington.....	1,850	4								4.48		1.15	0	11				Frank M. Barker.		
Mountain Lake.....	Giles.....	4,348	3	60.2		82	28	28	10	36	6.23		1.20	0	10	23	5	2		H. E. Dorland.	
Radford.....	Montgomery.....	1,773	4								2.86		0.98	0	5				Arthur Roberts.		
Speers Ferry.....	Scott.....	1,221	17								2.27	- 2.94	1.00	0	6				Miss L. E. Venable.		
Wytheville.....	Wythe.....	2,293	20	68.6	- 0.1	89	28	36	11	36	2.84	- 1.27	0.71	0	12	14	13	3	w.	U. S. Weather Bureau.	

\*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

\*\*Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for June, 1913. District No. 3, Ohio Valley.

Stations.	Watershed.	Day of month.																													Total	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
<i>New York.</i>																																
Allegany.....	Allegany.....	.13	.32					.57													.22	.32				T.	.22	.21	.17			2.16
Bolivar.....	do.....	.60						.35													.52	.24				T.	.10	.38				2.81
Olean    .....	do.....	.35						.65	.05											.35	.45					.50	.10				2.57	
<i>Pennsylvania.</i>																																
Alleppo.....	Ohio.....	.24																				.64	.35	.12		.06		.1.51				2.92
Baldwin.....	Allegheny.....	T.						T.													T.	.25	.25					.55	.26			2.21
Beaver Dam    .....	Ohio.....	.09																			T.	.49		T.								0.83
Beaver Falls    .....	do.....	.08																			T.	.40	.25	T.								1.44
Brookville.....	Allegheny.....	.06																		T.	.01		.71	.01	T.						3.62	
California.....	Monongahela.....							.02												T.	.45	.06	T.	T.							1.80	
Cheat Haven.....	do.....	.04						.20												T.	.38	.1.24	.16	.10	.17	.12	.51				3.06	
Clarion    .....	Allegheny.....	.10																		T.	.15	.1.50	.25								7.61	
Claysville.....	Ohio.....	.13						.10												T.	.30	.09	T.								1.10	
Confluence    .....	Youghiogheny.....							T.	.36											T.	.68	.10	.21	.10	.53						3.11	
Coraopolis    .....	Ohio.....	.02																		T.	.72	.01	T.								1.25	
Davis Island Dam    .....	do.....	.10						.01	T.										T.	.50	T.	.03									0.97	
Derry Station.....	Allegheny.....							.96											T.	.38	.54		.24	T.	.47	.40				3.01		
Edinboro.....	do.....	1.47						.71											T.	1.07	.54					.55	.54	.01	.19		5.08	
Ellwood City    .....		.09																	T.	.60	.40	.03									1.91	
Franklin    .....	Allegheny.....	.14						.23											T.	.58	.08	.04					.03	.53	.21	.44		4.33
Freeport    .....	do.....	.19						.02	.02										T.	.48	.71					T.	.75	.45			2.61	
Greensboro    .....	Monongahela.....	.10							.20										T.	.50	.80	.24	.16	.12	.18	.50				2.80		
Greensburg.....	Youghiogheny.....	.04						.05											T.	.30	.84					.06	.32	1.35		3.11		
Greenville.....	Ohio.....	.07	.10																T.	.75	.62									2.80		
Grove City.....	do.....	.08	.16																T.	.39	.61			T.						2.26		
Herrs Island Dam    .....	Allegheny.....	T.						.03	T.										T.	.42	.07	.06								0.92		
Indiana.....	do.....	.14	.07																T.	.30	.38									2.22		
Irwin.....	Monongahela.....	T.						.12											T.	.46	.77	.02								2.63		
Johnstown.....	Allegheny.....	.09	.02					.19											T.	.79	.44					.04	.02	.81	.06	1.3		
Lock No. 4    .....	Monongahela.....	.08							.30										T.	.50	.36	.05								2.09		
Lycippus.....	Allegheny.....							.21										T.	.31	.37										1.52		
Mosgrove    .....	do.....	.02																T.	.35	1.15	.03									1.35		
Parkers Landing    .....	do.....	.04																T.	.34	.88	.04									2.69		
Pittsburgh.....	Ohio.....	T.						.05										T.	.59	.07										1.04		
Ridgway.....	Allegheny.....	.15																T.	.72	.47										3.43		
Saeerstown.....	do.....	.50	.05					.68										T.	.70	.40										3.57		
Saltsburg    .....	do.....	.08						T.	.08									T.	.44	.43	.01									1.71		
Sharon    .....	Ohio.....	.07						.51										T.	.22	.1.40	.03	T.								2.46		
Somerset.....	Youghiogheny.....	.15																T.	.28	.15	.11	.42	.22	.68						2.86		
Springdale    .....	Allegheny.....	.04																T.	.42	.25										1.49		
Uniontown.....	Monongahela.....							.38										T.	.85	.66		.15	.50							4.14		
Warren.....	Allegheny.....	.20						.45										T.	.00	.00	.07	T.								3.07		
West Newton    .....	Youghiogheny.....	.08							.45									T.	.54	.20	.02									2.80		
<i>Maryland.</i>																																
Deer Park.....	Youghiogheny.....	.26						.60											T.	.14	.80	.24	.69	.10						4.21		
Grantsville.....	do.....	.55																T.	.52	.72	.11	.34	.40	T.	.52	.42			3.58			
Oakland.....	do.....	.62	.07															T.	.18	.59	.33	.83	.07	T.	.1.00	.04	.15		4.10			
<i>West Virginia.</i>																																
Bancroft    .....	Great Kanawha.....	.15	.19					.47	.94										T.	.93											3.38	
Beckley.....	do.....	.23						.55	.36									T.	.50	.13	.55	.06								6.03		
Bens Run.....	Ohio.....	28			*	*	*	*	*									T.	.65												2.49	
Bluefield    .....	Great Kanawha.....							.53										T.	.29	.93	.32									5.71		
Brandonville    .....	Monongahela.....							.90	.20									T.	.55	.08	.23	.30	.77	.20						3.04		
Buckhannon.....	do.....																	T.	.09	.63	.45									2.60		
Cairo.....	Little Kanawha.....	.42																T.	.03	.30	.61	.07	.20						4.03			
Central Station.....	Middle Is. Creek.....	.27																T.	.06	.33	.30	.61	.07	.20						2.23		
Charleston    .....	Great Kanawha.....	T.						.22	.32	.06								T.	.05											2.86		
Cheat Bridge    .....	Monongahela.....							.66										T.	.16											4.32		
Cortland    .....	do.....	.36																T.	.03	.32	.26	.28	.03	.2.03						4.10		
Creston    .....	Little Kanawha.....	.25						T.	.88																							

TABLE 2.—*Daily precipitation for June, 1913. District No. 3—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
<i>West Virginia—Con.</i>																																	
Smithfield	Fishing Creek	.52	.47	.12					.22												.56	.93	.27	.26		.32	.41					4.08	
Spencer	Little Kanawha	.30							.44													.45	.21		.43							2.83	
Sutton	Great Kanawha	T.						.41	.47	T.											.25	1.60			.40	.72	T.	.35	.29		2.89		
Union	do			.46				.47	1.30	.37													2.02	.02	.10	.40					6.03		
Webster Springs	do			.12	.25																			.54	.28	.35	.50	.20	.20	T.	4.58		
Wellsburg	Ohio	.06						.05														T.	T.		.36	.05					0.86		
Wheeling	do								T.	.14												T.	T.		.45	.05					2.44		
Williamson	Big Sandy	.04								T.	1.32	.02																				2.26	
<i>Ohio.</i>																																	
Amesville	Ohio	.28								.30	T.																					1.72	
Ashland	Muskingum	.31							.23	T.																						1.67	
Bangorville	do	.46		.08	.03				T.																						2.25		
Bellefontaine	Great Miami	.42		.66					.29																						1.56		
Bladensburg	Muskingum	.20							T.																						1.48		
Brilliant	Ohio	T.								T.																					1.20		
Cadiz	do	.25							.09																						1.92		
Cambridge	Muskingum	.23		.35					T.																						3.29		
Camp Dennison	Little Miami	.08		.15					.10																						1.50		
Canal Dover	Muskingum																																
Canton	Scioto	.08		T.																											.55		
Cardington	do	.53		.06																											3.52		
Chillicothe	Ohio	.31																													1.54		
Cincinnati	do	.39		.13					.22																					2.29			
Circleville	Scioto	.53		.33					.07																					4.15			
Clarington	Ohio	.30							.10																						2.15		
Columbus	Scioto	.39		.16					T.																						1.56		
Coshocton	Muskingum	.20		.15																											1.99		
Dayton (1)	Great Miami	.18		.79					.05																						2.67		
Dayton (2)	do	.19		.73					.03																						2.75		
Delaware	Scioto	.42		.20					T.	T.																					1.70		
Demos	Ohio	.14		T.	.01				.08																						2.31		
Dennison	Muskingum	.29							T.																						1.10		
Frankfort	Scioto	.12		T.																											1.77		
Gallipolis	Ohio	.18							.07	.65																				1.47			
Garretttsville	Mahoning	T.							.12																						1.30		
Granville	Muskingum	.49							.12																						1.68		
Gratiot	do	.48		.03					.12																						3.43		
Green	Ohio	T.	T.	.30					.40	.61																				2.53			
Green Hill	Muskingum	.07		T.					T.																						0.63		
Greenville	Great Miami	.58		.05					1.09																						2.37		
Hamilton	do	.23		.07					.67																						3.00		
Haydenville	Ohio																																
Hillsboro	Scioto																																
Ironhton	Ohio	.05																														1.50	
Kenton	Scioto	.25		.21					.20																						1.01		
Killbuck	Muskingum	.30		.04	.04																										1.25		
Kings Mills	Little Miami	.23		.03					.22																						2.41		
Lancaster	Ohio	.28		.13					T.																						1.91		
McConnelsville	Muskingum	.27		T.	.08				.02																						1.86		
Marietta	Ohio	.32			T.				.04																						4.94		
Marion	Scioto	.90		.18	.10				.58																						3.52		
Milfordton	Muskingum	.32		.35																											1.51		
Milligan	do	.12			.10				.01																						1.51		
Milport	Ohio	.12							.03																						1.72		
Nellie	Muskingum	.36		.06																											1.75		
New Berlin	do	.10																														1.29	
New Waterford	Ohio																															1.10	
O. S. University	Scioto	.38		.15																												1.57	
Oregonia	Little Miami	.50		.28					.05																						2.01		
Pataksala	Muskingum																																
Peebles	Ohio	.03		.14					.05	.10																					1.64		
Philo (1)	Muskingum	.24		T.					T.																						1.59		
Piqua	Great Miami	.30		.06					.87																						2.37		
Plattsburg	Little Miami	.31		.47					T.																						1.55		
Portsmouth	Ohio	.01		T.					.43	.26																					2.18		
Prospect	Scioto																															1.03	
Sidney	Great Miami	.34		.14	.03																												

TABLE 2.—*Daily precipitation for June, 1913. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for June, 1913. District No. 3—Continued.*

TABLE 2.—*Daily precipitation for June, 1913. District No. 3—Continued.*

Stations.	Watershed.	Day of month.																													Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
<i>North Carolina—Con.</i>																																		
Highlands.....	Tennessee.....			.05			.48	2.45	.50	.45									.37		.10	1.05										8.64		
Hot Springs.....	do.....	.07	1.08	.05			T.	.37	1.37	.18									.15			1.34	.38									5.95		
Jefferson.....	Great Kanawha.....																																	
Marshall.....	Tennessee.....	T.	.12	T.	.11			.08	1.24		.15																					3.33		
Murphy    .....	do.....	.17				.03	1.51	.26	1.52	1.04	.05																				.05	4.88		
Rock House.....	Savannah.....	T.	.18	T.	1.18	.39	1.73	2.35	.22										T.	1.17	T.	1.08	.02	T.									10.43	
Transon.....	Great Kanawha.....	.07	.34	.20				.60	1.00	.10									.21		T.											3.99		
Waynesville    .....	Tennessee.....		T.			.34	.12	.28	1.55	.43	.12									.40		.19	.10		.05	.06						.06	3.80	
<i>Virginia.</i>																																		
Blacksburg.....	Kanawha.....		.08			.43			.40	.36	T.		.56		.46				.05	.02					.05	.87	.06	1.03		.02	.34		4.15	
Burkes Garden.....	Tennessee.....			.61		.13			.57	.20	.09								.50	T.	T.					.45	1.10	.30						4.10
Elk Knob.....	do.....																			.12														2.22
Emory.....	do.....																																	
Ivanhoe    .....	Kanawha.....		T.		.12	.02	T.		.20	.10	.10		.60	T.					.16	.03	.50					T.	.08	.30		.30	T.	.05	T.	2.56
Max Meadows.....	do.....		*			.25	.50		.05		.38	.52							.35	.48		T.	.25	.12	.02	T.								4.92
Mendota    .....	Tennessee.....	.40	.22	.42	.80		.27	1.15	.06									.20							.36	.45	.15						4.48	
Mountain Lake.....	Kanawha.....			.82	.07			1.20	.53									.25	.36						T.	1.18	.04	1.20					6.23	
Radford    .....	do.....							.58	.40																								2.86	
Speers Ferry    .....	Tennessee.....		.67			.16		.21	.38	.03	.10	.12		.19	.34				.28	.33					.28	.11	.61		.02	T.			2.27	
Wytheville.....	Kanawha.....					.06																												2.84

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures for June, 1913. District No. 3, Ohio Valley.

Date.	Pennsylvania.				West Virginia.										Ohio.													
	Greenville.		Pittsburgh.		Charleston.		Elkhorn.		Elkins.		Glenville.		Huntington.		Morgan-		Parkers-		Wheel-		Canton.		Cincinnati.		Columbus.		Dayton.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	83	47	80	55	80	54	80	51	84	44	80	54	84	56	80	51	84	55	84	51	82	48	85	65	83	61	81	62
2....	75	44	75	58	76	62	80	60	80	57	86	48	78	64	78	60	80	63	83	58	77	48	79	65	76	56	73	60
3....	83	41	81	54	85	61	80	56	83	52	88	45	87	61	83	52	86	57	87	51	84	47	86	62	85	58	84	58
4....	77	49	72	56	88	64	77	60	77	52	89	47	81	63	77	58	75	59	80	53	70	50	75	61	72	55	73	55
5....	74	36	75	48	84	52	80	52	82	43	88	44	86	51	74	42	78	51	80	40	74	41	79	57	76	52	78	53
6....	90	44	87	61	89	60	78	58	86	52	92	53	90	54	88	60	90	58	93	44	90	48	90	59	89	59	88	60
7....	70	46	76	52	88	66	73	59	76	57	88	54	79	58	88	52	81	56	73	50	67	61	77	52	74	43	75	50
8....	59	38	62	46	75	50	62	56	68	47	86	51	72	52	86	49	72	49	82	41	81	46	65	48	62	43	63	45
9....	62	30	63	43	69	47	59	50	62	41	82	39	69	47	83	41	84	44	71	43	62	36	65	43	63	39	63	40
10....	69	29	69	43	68	43	63	40	65	34	76	38	71	46	67	40	68	45	74	39	69	35	70	46	69	42	68	43
11....	75	33	74	46	72	43	63	38	72	34	78	40	72	45	70	40	74	44	77	42	76	37	76	52	75	46	76	47
12....	81	36	80	49	80	52	72	48	75	46	80	46	82	51	77	46	79	51	84	44	81	40	83	53	79	51	80	50
13....	84	41	82	50	82	50	76	43	78	39	88	42	87	50	81	46	84	48	87	46	85	43	88	55	84	55	85	53
14....	86	48	85	60	87	54	82	47	82	46	90	51	91	53	85	52	88	54	92	50	89	50	90	58	89	57	89	67
15....	91	46	88	64	90	57	84	50	88	47	92	55	92	56	88	56	91	58	94	53	92	52	90	62	90	62	90	64
16....	95	59	92	72	84	60	85	53	85	58	94	56	91	62	89	69	90	69	97	59	96	62	96	73	94	69	96	69
17....	85	63	85	69	92	65	84	60	93	60	92	60	92	70	87	64	93	70	94	69	88	61	95	73	90	67	92	68
18....	84	49	84	64	91	66	84	60	85	56	92	61	91	75	86	58	87	67	90	58	88	55	92	69	88	63	91	70
19....	90	50	89	62	91	64	85	58	87	55	93	64	91	62	89	60	93	60	94	56	93	55	94	65	94	64	94	66
20....	91	62	90	64	95	88	60	89	53	95	70	95	67	93	70	93	67	93	65	96	75	95	70	93	73	95	73	95
21....	75	56	80	61	93	67	86	65	87	63	96	70	93	69	88	62	90	70	85	68	81	66	93	66	81	62	86	63
22....	79	46	80	58	92	67	86	61	91	65	97	74	96	74	88	62	90	80	85	72	64	73	60	83	60	83	60	83
23....	85	46	78	66	81	67	84	62	73	64	90	63	81	69	80	64	81	66	81	64	80	50	82	68	80	62	82	64
24....	90	61	83	67	85	68	81	62	80	63	88	67	85	68	85	64	85	70	82	66	82	62	88	71	84	69	85	68
25....	87	61	87	67	91	69	84	61	86	64	92	65	90	68	88	64	91	68	94	68	87	67	90	69	88	68	88	68
26....	91	66	90	67	93	70	87	61	87	63	95	65	95	69	89	65	94	68	96	68	95	62	96	73	94	71	91	72
27....	91	63	91	73	93	72	87	63	89	64	95	66	91	70	91	64	92	61	95	67	96	64	96	74	94	74	94	74
28....	87	68	89	72	94	70	86	63	89	65	97	68	96	74	91	67	94	72	95	69	93	66	98	77	96	75	96	74
29....	97	53	89	66	94	72	85	64	89	65	94	73	89	67	91	71	94	67	91	59	95	77	94	69	95	72	95	72
30....	94	57	93	70	94	72	90	65	92	63	96	67	95	69	94	68	97	69	97	63	98	60	98	74	98	66	98	66
Mns..	82.3	49.0	81.6	59.4	85.8	61.0	79.7	56.2	81.0	53.8	89.4	56.0	86.1	61.3	S3.4°	57.4°	84.3	60.5	86.8	56.2	83.9	52.7	86.0	63.6	83.8	59.8	84.1	60.9

Date.	Ohio.				Indiana.										Kentucky.													
	Marion.		Waverly.		Butlerville.		Evansville.		Indianapolis.		Kokomo.		Rockville.		Worthington.		Philo.		Beattyville.		Bowling Green.		Earlington.		Greensburg.		Lexington.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	82	58	85	56	90	67	95	72	86	67	78	64	92	66	92	67	88	65	89	57	97	65	98	71	95	60	87	63
2....	73	52	81	62	84	63	86	69	79	62	80	54	88	67	87	65	86	61	86	59	92	64	93	66	89	64	73	63
3....	83	49	85	54	85	59	87	70	86	61	82	58	83	61	91	64	87	59	84	60	90	65	93	67	88	73	83	63
4....	74	50	75	59	80	55	85	64	76	55	76	51	83	52	83	56	82	51	86	60	89	64	90	66	85	63	76	60
5....	82	45	78	45	83	54	87	63	81	57	79	53	86	58	86	60	88	57	85	53	92	60	94	63	88	59	79	54
6....	92	54	88	51	90	61	91	68	90	62	98	60	97	63	94	66	96	66	90	56	93	64	95	67	87	64	95	65
7....	80	52	80	62	83	60	85	61	76	54	79	56	80	53	84	62	76	49	81	64	89	64	90	67	85	65	95	66
8....	63	41	67	49	67	48	69	54	63	44	64	38	69	44	72	55	69	41	69	52	68	55	68	54	65	48	72	55
9....	66	38	65	40	66	41	67	48	64	42	66	38	68	41	69	45	68	39	69	47	71	49	72	52	68	49	73	45
10....	67	37	69																									

TABLE 3.—Maximum and minimum temperatures for June, 1913. District No. 8—Continued.

Date.	Kentucky.						Tennessee.										Decatur, Ala. §§	Asheville, N. C.	Virginia.							
	Louisville.		Maysville. §§		Williams- burg. §§		Chatta- nooga.		Johnson City. §§		Knoxville.		Nashville.		Palmetto.		Sparta.		Waynes- boro.							
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1....	93	68	91	56	91	58	88	64	92	66	89	63	91	68	89	69	92	63	91	64	90	64	84	57	83	50
2....	85	67	83	59	88	66	90	64	91	60	89	63	87	69	88	66	89	64	93	65	94	68	80	59	80	60
3....	84	65	89	59	86	64	86	63	86	61	85	65	86	66	83	64	89	63	87	65	87	65	81	60	83	56
4....	81	62	79	59	88	61	86	66	82	62	83	63	86	67	83	66	88	62	87	63	84	63	81	60	80	58
5....	83	59	84	47	88	60	87	65	88	57	87	62	87	67	87	73	88	60	88	63	89	65	80	57	78	52
6....	87	66	93	53	89	63	81	70	83	65	84	68	85	68	83	66	86	70	86	67	85	69	77	63	82	54
7....	80	56	82	55	88	68	83	68	88	62	80	69	84	68	81	68	84	66	86	65	87	76	63	86	50	80
8....	67	50	70	49	75	60	85	65	72	65	79	62	71	60	75	62	76	63	78	63	88	66	77	55	68	53
9....	65	47	69	42	67	53	65	56	54	50	62	55	72	56	72	58	67	59	72	57	66	61	55	48	59	47
10....	70	48	72	43	71	42	69	55	62	46	69	52	73	54	71	56	74	48	74	55	73	58	61	48	58	38
11....	76	48	78	41	75	41	72	51	62	42	70	50	75	54	71	56	75	45	74	44	73	56	59	46	60	35
12....	81	54	84	44	80	43	73	50	70	45	77	48	81	50	79	48	78	45	80	43	79	48	70	46	73	46
13....	88	57	88	46	86	43	86	56	79	45	83	50	86	53	83	48	85	47	85	45	85	51	77	47	79	45
14....	90	65	92	50	92	47	90	57	85	48	89	54	90	56	86	52	90	49	88	48	89	52	83	51	83	48
15....	91	67	94	52	95	50	92	61	86	52	92	57	91	59	89	54	92	50	90	50	80	58	85	52	86	50
16....	95	74	99	61	94	51	95	63	87	53	92	59	93	61	90	56	93	51	92	51	93	58	86	54	85	53
17....	98	74	98	64	98	58	95	64	87	51	95	65	97	63	93	60	95	52	94	54	94	58	83	61	88	62
18....	93	70	97	66	95	60	96	66	81	62	93	68	98	67	96	71	95	59	99	58	98	61	87	62	81	58
19....	95	70	98	61	95	60	91	65	88	50	90	64	96	69	90	67	96	62	95	63	94	67	87	55	87	56
20....	96	77	100	64	95	62	94	69	87	64	94	69	95	68	94	66	96	63	97	67	88	63	90	53	88	59
21....	94	68	96	67	94	64	92	64	95	64	94	71	94	72	93	66	95	63	95	64	98	72	86	62	88	65
22....	81	68	81	66	90	66	89	67	83	67	90	68	92	70	91	67	90	66	94	65	87	67	86	64	84	60
23....	79	67	82	66	86	62	90	64	87	66	88	67	90	70	91	69	91	65	92	65	91	66	83	61	81	63
24....	88	66	92	67	90	64	89	69	92	62	91	66	92	68	92	68	93	65	93	65	92	63	84	60	83	63
25....	90	71	95	66	94	66	92	69	93	61	93	69	94	70	94	70	95	66	94	65	93	68	86	62	86	60
26....	95	74	98	66	97	65	94	73	97	62	94	70	96	72	96	69	99	69	97	65	96	71	87	63	88	59
27....	95	75	99	69	97	67	93	73	94	67	95	72	97	74	97	72	93	68	97	67	94	71	88	65	88	62
28....	96	76	99	69	98	68	95	72	95	67	94	72	96	74	96	70	97	66	97	68	98	72	89	65	90	63
29....	100	76	97	70	100	68	98	73	96	67	95	73	100	75	98	69	95	69	99	66	98	72	88	65	82	66
30....	97	77	101	72	100	70	93	69	97	70	94	72	98	76	96	70	95	68	96	70	92	69	84	66	86	61
Mns..	87.1	65.4	89.3	58.3	89.4	58.8	87.8	64.3	84.6	58.6	86.7	63.5	89.1	65.5	87.6	63.8	89.0	60.2	89.5	60.3	87.4	63.9	80.7	59.1	80.8	55.1
																										50.5

•, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.